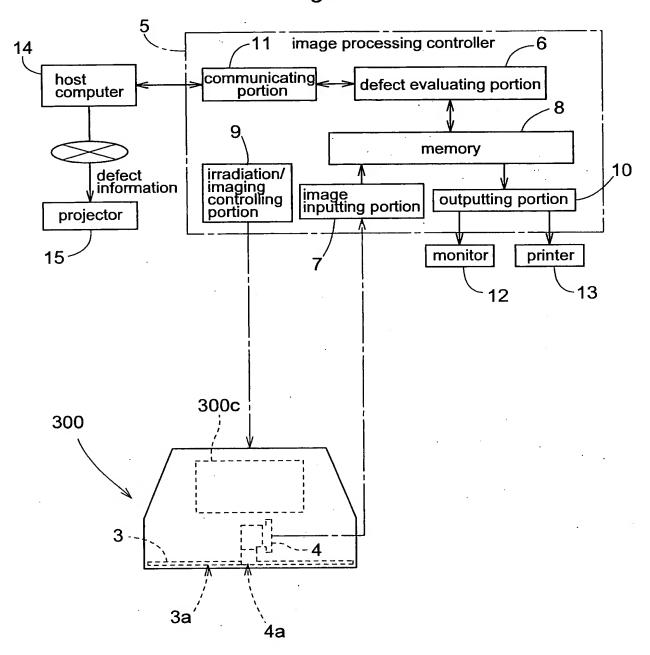


Fig.5



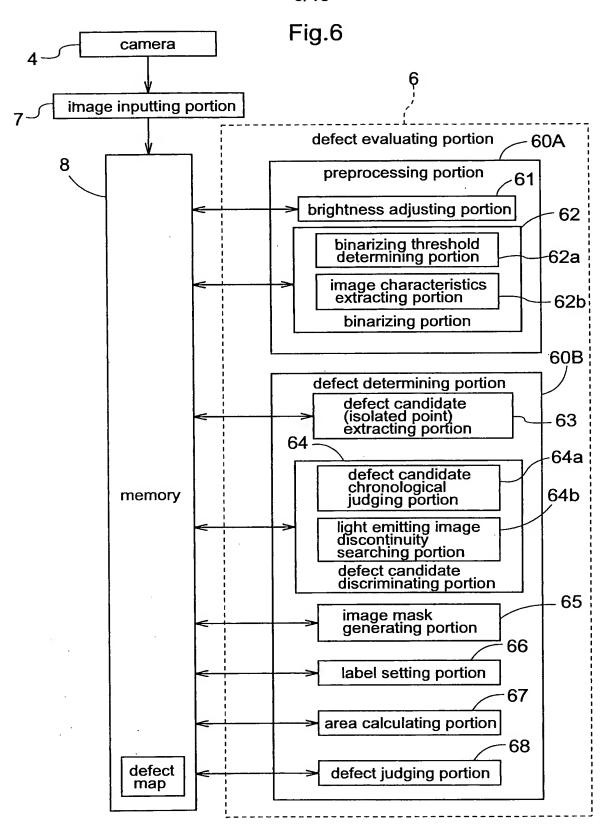


Fig.7

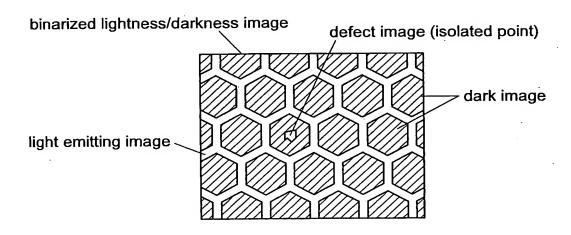


Fig.8

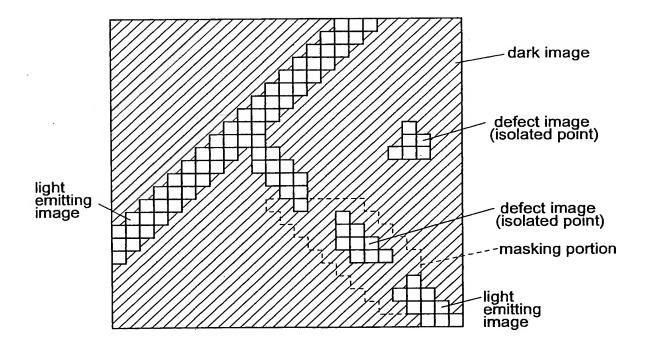


Fig.9 start #01 input image data #02 brightness adjustment #03 determine binarizing threshold value #04 smoothing/edge enhancing operation #05 binarizing operation #06 extract defect pixel (isolated point) #07 chronological determination of defect pixels (isolated points) #08 search discontinuity in LED images area #09 set image mask #10 correct image mask #11 labeling (discriminate defect candidate) #12 calculate area of defect pixel #13 determine defect

write in defect map

end

#14

Fig.10

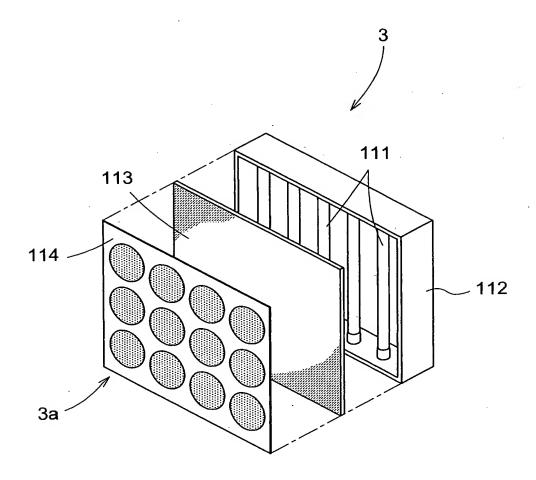
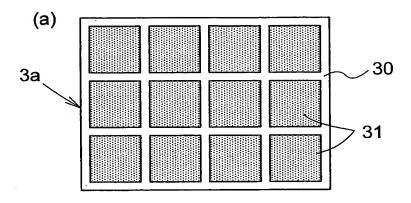
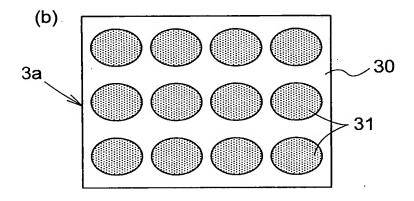
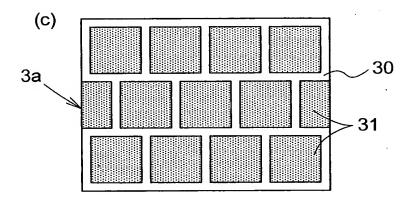
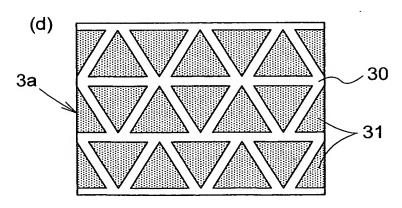


Fig.11









11/15 Fig.**12**

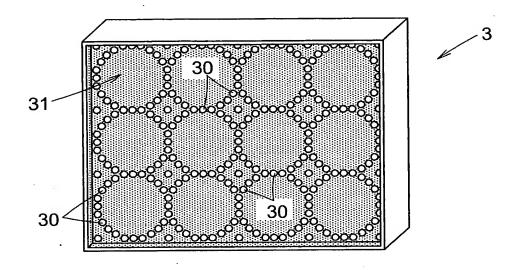


Fig.13

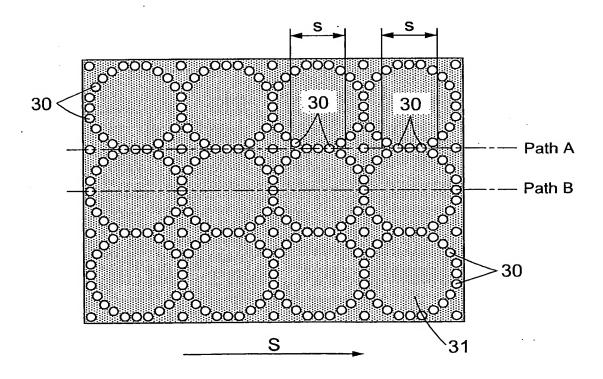


Fig.14

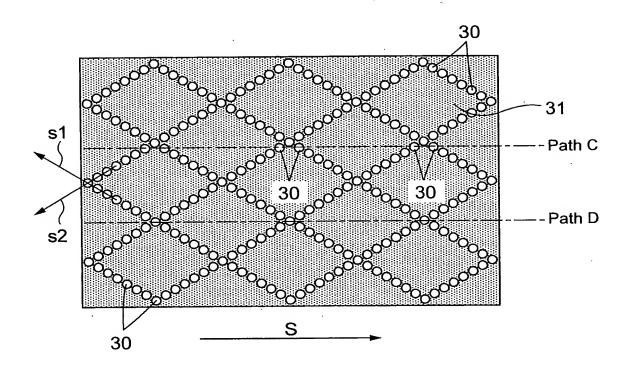
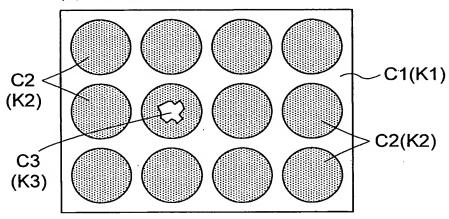
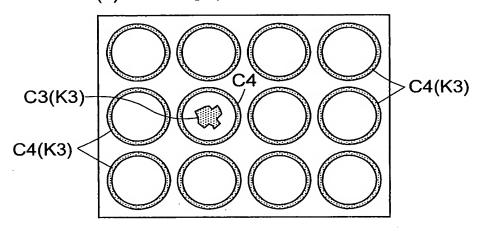


Fig.15

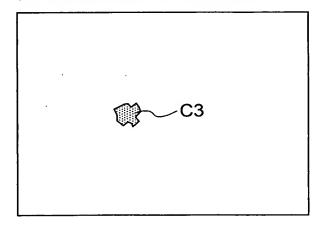
(a) original image

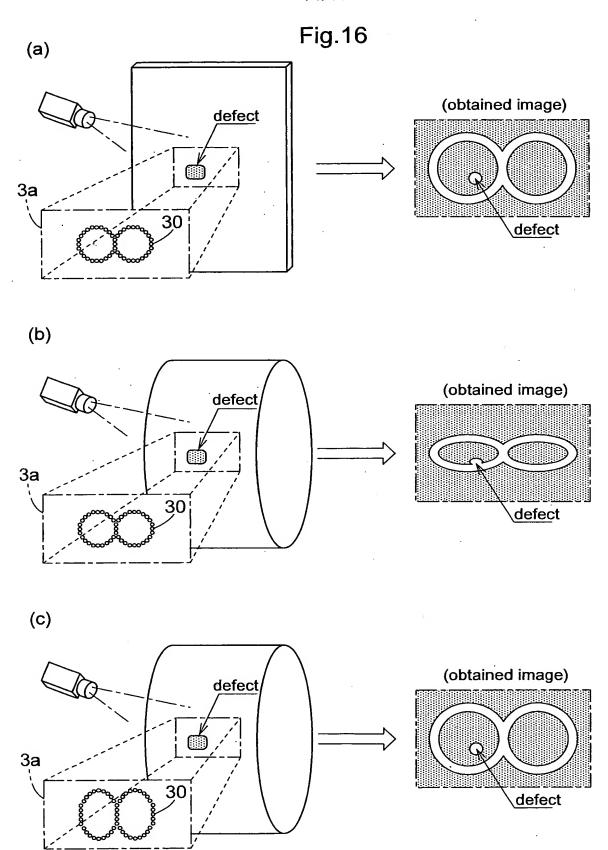


(b) ternarizing operation



(c) expanding/contracting operation





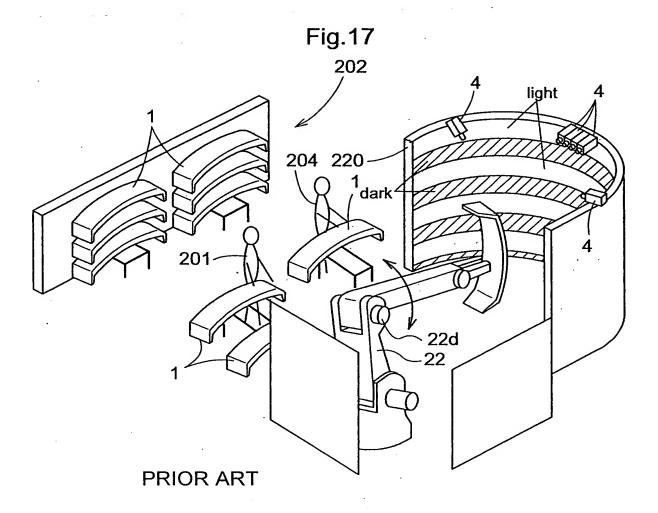


Fig.18

5

controller

defect
evaluating
section

6

PRIOR ART